UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

INTELLECTUAL VENTURES I LLC, and INTELLECTUAL VENTURES II LLC, Plaintiffs, v. LENOVO GROUP LIMITED, Defendant.	Civil Action No. 6:23-cv-00307-ADA

MEMORANDUM IN SUPPORT OF CLAIM CONSTRUCTION ORDER

Before the Court are Lenovo Group Limited's ("LGL's") and Intellectual Ventures' ("IV's") claim construction briefings in the above captioned matter. Dkts. 33, 41, 46, 48, 49. The patents-in-suit are U.S. Patent Nos. 7,325,140 ("the '140 patent"); 8,474,016 ("the '016 patent"); 7,089,443 ("the '443 patent"); 7,623,439 ("the '439 patent"); and 7,646,835 ("the '835 patent"). Pursuant to this Court's Order Governing Proceedings, the parties were given the Court's preliminary constructions via email on May 21, 2024. The parties then notified the Court that no hearing was necessary, and they would rest on their briefing. On May 28, 2024, the Court issued its Claim Construction Order for the disputed terms in this case. Dkt. 60. The Court enters this memorandum in support of that order.

I. LEGAL STANDARD

A. General Principles

The general rule is that claim terms are generally given their plain-and-ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014), *vacated on other grounds*, 575 U.S. 959, 959

(2015) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (internal quotation omitted). The plain-and-ordinary meaning of a term is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313.

The "only two exceptions to [the] general rule" that claim terms are construed according to their plain-and-ordinary meaning are when the patentee (1) acts as his/her own lexicographer or (2) disavows the full scope of the claim term either in the specification or during prosecution. *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The Federal Circuit has counseled that "[t]he standards for finding lexicography and disavowal are exacting." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). To act as his/her own lexicographer, the patentee must "clearly set forth a definition of the disputed claim term" and "'clearly express an intent' to [define] the term." *Thorner,* 669 F.3d at 1365.

"Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. In "distinguishing the claimed invention over the prior art, an applicant is indicating what a claim does not cover." *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379 (Fed. Cir. 1998). The doctrine of prosecution disclaimer precludes a patentee from recapturing a specific meaning that was previously disclaimed during prosecution. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id.* at 1325–26. Accordingly, when "an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

A construction of "plain and ordinary meaning" may be inadequate when a term has more than one "ordinary" meaning or when reliance on a term's "ordinary" meaning does not resolve the parties' dispute. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co*., 521 F.3d 1351, 1361 (Fed. Cir. 2008). In that situation, the Court must describe what the plain-and-ordinary meaning is. *Id.*

"Although the specification may aid the court in interpreting the meaning of disputed claim language…, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988). "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). Technical dictionaries may be helpful, but they may also provide definitions that are too broad or not indicative of how the term is used in the patent. *Id.* at 1318. Expert testimony may also be helpful, but an expert's conclusory or unsupported assertions as to the meaning of a term are not. *Id.*

B. Preambles

Courts presume that the preamble does not limit the claims. *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358 (Fed. Cir. 2010). But "[i]n general, a preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)).

"Conversely, a preamble is not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Catalina Mktg.*, 289 F.3d at 808 (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). The Federal Circuit has provided some "guideposts" regarding whether the preamble is limiting: (1) preamble provides antecedent basis, (2) preamble is essential to understand limitations or terms in the claim body, (3) preamble recites "additional structure or steps underscored as important by the specification," and (4) "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art." *Id*.

C. Means-Plus-Function Claiming

An element of a patent claim may be expressed using functional language. *See* 35 U.S.C. § 112 ¶ 6;[1] *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 (Fed. Cir. 2015) (en banc in relevant part). The statute states:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

§ 112 ¶ 6.

The initial inquiry is whether § 112 ¶ 6 applies to a specific claim term. "The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson*, 792 F.3d at 1349. In making this determination, courts have "long recognized the importance of the presence or absence of the word 'means.'" *Id.* at 1348. When a claim term recites the word "means," there is a rebuttable

[1]The American Invents Act of 2011 changed the numbering of the relevant subsection from § 112, ¶ 6 to § 112(f). Because the substance of the subsection did not change, the undersigned will refer to the relevant subsection as § 112, ¶ 6 herein in keeping with the numeration at the time of the filing of the patents-in-suit.

presumption that § 112, ¶ 6 applies. *Williamson*, 792 F.3d at 1348. Conversely, if the term does not recite the word "means," then it is rebuttably presumed not to be subject to § 112, ¶ 6. *Id.* "That presumption can be overcome, but only if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342 (Fed. Cir. 2020) (internal quotations removed) (citing *Williamson*, 792 F.3d at 1349). "The correct inquiry, when 'means' is absent from a limitation, is whether the limitation, read in light of the remaining claim language, specification, prosecution history, and relevant extrinsic evidence, has sufficiently definite structure to a person of ordinary skill in the art." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014), *overruled on other grounds by Williamson*, 792 F.3d at 1349.

When § 112, ¶ 6 applies, it limits the scope of the functional term "to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. "The first step . . . is a determination of the function of the means-plus-function limitation." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). "[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof." *Id.* A "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Id.* The focus of the "corresponding structure" inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Id.* The corresponding structure "must include all structure that actually performs the recited function." *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed.

Cir. 2005). However, § 112, ¶ 6 does not permit "incorporation of structure from the written description beyond that necessary to perform the claimed function." *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general-purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function, *i.e.*, the corresponding structure is a processor + algorithm. *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339,1349 (Fed. Cir. 1999). In this situation, the corresponding structure is not a general-purpose computer but rather a special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). The algorithm may be described in "any understandable terms," such as "as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013). Federal Circuit caselaw does not require that the patent describe an algorithm "if the selection of the algorithm or group of algorithms needed to perform the function in question would be readily apparent to a person of skill in the art." *Aristocrat Techs. Australia Pty Ltd. v. Multimedia Games, Inc.*, 266 F. App'x 942, 947-48 (Fed. Cir. 2008). Where the claim itself describes the algorithm, § 112, ¶ 6 does not apply because the claim recites the required structure. *St. Isidore Rsch., LLC v. Comerica Inc.*, No. 2:15-CV-1390-JRG-RSP, 2016 WL 4988246, at *13 (E.D. Tex. Sept. 19, 2016).

D. Indefiniteness

"[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope

of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application was filed. *Id.* at 911.

In the context of a claim governed by § 112, ¶ 6, the claim is indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed functions. *Williamson*, 792 F.3d at 1351–52. The disclosure is inadequate when one of ordinary skill in the art "would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *Id.* at 1352. Computer-implemented means-plus-function claims that require an algorithm are indefinite unless the specification discloses an algorithm to perform the function associated with the limitation. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1319 (Fed. Cir. 2012).

II. CLAIM CONSTRUCTION

A. "processor configured to facilitate operation of the network device" ('016 Patent, Claim 1)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Plain and ordinary meaning	Subject to § 112, ¶ 6 **Function**: "facilitating the operation of the network device" **Structure**: Indefinite	Plain and ordinary meaning. Not subject to § 112, ¶ 6.

The '016 Patent relates to remote management of network devices. It is a continuation of the '140 Patent, and the patents largely share a common specification. Both patents describe embodiments of a "Secure Management Access Control for Computer Chipset (SMACC)." '016 Patent at 5:48–6:3.

Claim 1 recites two processors. First, it recites an apparatus processor "configured to control one or more functions of a network device." Second, Claim 1 recites a network device processor "*configured to facilitate operation of the network device*, and wherein the processor of the apparatus is distinct from the processor included in the network device." (emphasis added to highlight disputed claim term). The dispute here relates to the second processor that is "included in the network device" and "configured to facilitate operation of the network device."

The Court finds this term is not subject to § 112, ¶ 6 for two reasons. First, the phrase "configured to facilitate operation of the network device," when read in the context, is an indication of the purpose or intended use of the processor rather than a function performed by the processor. The claim recites two processors—one configured to facilitate operation of the network device and another to control functions of the network device. The disputed claim language identifies which processor is used for which purpose.

Second, even if "configured to facilitate operation of the network device" is considered a function, LGL fails to overcome the presumption that § 112, ¶ 6 does not apply. The specification refers to processors as "chipsets in a device." '016 Patent at 5:52–56. That is a known class of structures and consistent with the plain and ordinary meaning of a processor. The claim does not use the word means. The "term 'processor' is not a nonce word." *WSOU Investments LLC v. Google LLC*, 2023 WL 6889033, at *3 (Fed. Cir. 2023). In the context of the '016 Patent, a "processor configured to facilitate operation of the network device" connotes sufficient structure.

LGL argues that this case is "nearly identical" to *WSOU*. Dkt. 33 at 5. The Court disagrees. In *WSOU*, the Federal Circuit affirmed this Court's determination that the term "processor" in a different patent failed "to recite sufficiently definite structure." 2023 WL 6889033, at *3–4. There, the patent described "the word 'processor' so broadly as to generically be any structure that

manipulates data," and specifically that the process could be implemented in "hardware alone," "software including firmware alone," or as a "combination of hardware and software." *Id*.

Here, LGL argues the '016 Patent "makes clear that the processor may be software as well." Dkt. 33 at 5 (citing '016 Patent at 5:52–59). The cited passage of the specification, however, does not support LGL's position. The portion of the specification that LGL relies on states:

> In this preferred exemplary embodiment, the SMACC functions are implemented on a separate processor with separate flash and memory; however, this is not intended to limit the implementation of these features to separate chipsets in a device. These features also can be combined with other hardware and software features such as being integrated with a modem or with the main processor of a device.

'016 Patent at 5:52–59. Unlike in *WSOU*, the specification of the '016 Patent does not state that the second claimed processor that is included in the network device may be implemented in software alone. Rather, it states that the first claimed processor may be implemented on a separate processor or may be "combined with other hardware and software features" and may be integrated "with the main processor of a device." *Id*. This "main processor" is what corresponds to the claimed second processor, and the specification does not describe implementing that processor in software alone. *See id*. at 11:1–9, Figs. 1, 14.

For the above reasons, LGL has failed to overcome the presumption that § 112, ¶ 6 does not apply to this claim term. Neither party argues for a construction other than the plain and ordinary meaning.

B. "The apparatus of claim 1, wherein the apparatus is a component within the network device" ('016 Patent, Claim 9)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Plain and ordinary meaning	Indefinite	Plain and ordinary meaning.

LGL argues Claim 9 of the '016 Patent is indefinite because "[a] POSITA would not be able to ascertain how the apparatus could be a component within the network device as recited in Claim 9 when Claim 1 describes the exact opposite—namely that the network device is a component within the apparatus." Dkt. 33 at 7–9. LGL's argument is based on a misreading of the claims. Claim 1 recites an apparatus that includes "a processor to control one or more functions of a network device." Although the apparatus includes a processor configured to control functions of the network device, Claim 1 does not require the network device to be a component within the apparatus. There is no limitation in Claim 1 that dictates whether the apparatus and network devices are separate, whether the apparatus is a component of the network device, or whether the network device is a component of the apparatus. Thus, Claim 9, which requires the apparatus to be a component within the network device, does not conflict with any limitation of Claim 1 and is not indefinite.

C. "A remote device management communication system for securely controlling access to management applications and communications to and from said management applications on network devices in a distributed computer network that includes one or more network services, one or more secure management access controllers, and one or more managed network devices, the remote device management system comprising:" ('140 Patent, Claim 1)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Preamble is not limiting	Preamble is limiting	Preamble is limiting.

As noted above, the '140 Patent is related to the '016 Patent, the patents largely share a common specification, and both relate to remote management of network devices. The Court agrees with LGL that the preamble of Claim 1 is limiting. The preamble provides antecedent bases for at least two different limitations in the body of the claim: "said managed network device" and

"said one or more network services."[2] While not dispositive, providing antecedent bases for multiple claim terms indicates a reliance on the preamble to define the invention. *See Shoes by Firebug LLC v. Stride Rite Children's Grp.*, LLC, 962 F.3d 1362, 1368 (Fed. Cir. 2020). Further, the preamble recites "management applications and communications to and from said management applications on network devices in a distributed computer network." These additional details and structure of the claimed system are essential for understanding the claimed invention and breathe "life, meaning, and vitality" into the claim. *See Catalina Mktg.*, 289 F.3d at 808.

D. "out-of-band connection means:" ('140 Patent, Claims 1, 6, and 7)[3]

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Function**: "connecting said one or more network services or remote users with said secure management access controller for management of said network device" **Structure**: a SMACC Network Enabled Management Interface; and/or communication protocols, modems, and physical interfaces (collectively communication system components) disclosed in the specification; and/or	Subject to § 112, ¶ 6 **Function**: "connecting said one or more network services or remote users with said secure management access controller for management of said network device" **Structure**: Structure disclosed at '140 Patent, 3:2-4, 6:14-21, 7:60-62, 8:30-38, 11:16-18, 12:21-13:31, 15:3-25, 15:40-16:34, FIGS. 3-5, 9-13, 18, 23-26, and 30, and equivalents	Subject to § 112, ¶ 6 **Function**: "connecting said one or more network services or remote users with said secure management access controller for management of said network device" **Structure**: one or more of the following networks: a Public switch Telephone Network (PSTN) (2:45-57, 3:2-4, 12:37-61), a Integrated Services Digital Network (ISDN) (2:45-57), a cellular network (6:14-21, 7:60-62, 12:37-61), an Ethernet

[2] LGL also argues the preamble provides antecedent basis for "said secure management access controller." Dkt. 33 at 10. But, as IV notes, the first claim limitation following the preamble recites "at least one secure management access controller," which provides antecedent basis for "said secure management access controller." Dkt. 41 at 6–7.

[3] The Court notes that the claims recite "out-of-band access connection means" not "out-of-band connection means" as presented by the parties in their briefing and joint claim construction statement. Although, for consistency, the Court will refer to this limitation herein in the same manner as the parties, the Court's construction applies to the claim term "out-of-band access connection means."

equivalents of both the SMACC Network Enabled Management Interface; and/or communication system component(s). *See* '140 Patent, 3:2-4, 6:14-21, 7:60-62, 8:30-38, 11:16-18, 12:21-13:31, 15:3-25, 15:40-16:34, FIGS. 3-5, 9-13, 18, 23- 26, 30.		network (12:37-61), a wireless network, and/or a Digital Subscriber Line (DSL) (12:37-61, 15:55-60), where the one or more networks use one or more of the following protocols: SNMP, TFTP, FTP, DNS, SysLog, Telnet, SSH, HTTP, HTTPs, point to point IP, and/or XML (8:30-38). *See also* FIGS. 3-5, 9-13, 18, 23-26, and 30

As an initial matter, the Court notes that for the various means-plus-function limitations of the claims of the '140 Patent, the parties agree that 35 U.S.C § 112, ¶ 6 applies, they agree on the functions, and they largely agree on where in the specification corresponding structure is disclosed. Neither party, however, identifies specific corresponding structures. LGL's proposed structures are a list of citations to the specification. But LGL fails to identify whether the various citations disclose different portions of one structure, whether each citation discloses an alternative structure, or some mix of both. IV proposes narratives for the corresponding structures that likewise lack specificity. IV's proposed structures include the phrase "and/or," which fails to identify which structures are required or alternative. The Court was forced to parse the various citations to identify specific corresponding structures (and alternative structures) and provided its preliminary constructions to the parties. The parties notified the Court that no claim construction hearing was necessary, and neither party has identified any error in the Court's preliminary constructions.

Claim 1 recites "out-of-band connection means," and the parties disagree about corresponding structure.[4] For this term, the specification contemplates that various networks may be used to perform the recited function. *See* '140 Patent at 1:45–55 ("the remote administrator communicates with the system using a means other than the network utilized by the user data of the managed system."). The Court finds that the following alternative types of networks are disclosed in the specification as "out-of-band connection means" and clearly linked to the recited function: a Public switch Telephone Network (PSTN) (*id*. at 2:45-57, 3:2-4, 12:37-61), an Integrated Services Digital Network (ISDN) (*id*. at 2:45-57), a cellular network (*id*. at 6:14-21, 7:60-62, 12:37-61), an Ethernet network (*id*. at 12:37-61), a wireless network, and/or a Digital Subscriber Line (DSL) (*id*. at 12:37-61, 15:55-60). While some disclosures also provide for specific hardware (e.g., a modem) used with the network, other disclosures focus solely on the network. Both parties also point to disclosure of specific protocols used by the disclosed networks as part of the structure for the "out-of-band connection means." The Court finds that the specific protocols described in the specification to be used by the one or more networks identified above are: SNMP, TFTP, FTP, DNS, SysLog, Telnet, SSH, HTTP, HTTPs, point to point IP, and/or XML (*id*. at 8:30-38).[5]

E. "virtual management interface connection means" ('140 Patent, Claim 1)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Functions**:	Subject to § 112, ¶ 6 **Functions**:	Subject to § 112, ¶ 6 **Functions**:

[4] Although the parties identify this term as applying to Claims 1, 6, and 7, neither party makes any separate argument about Claims 6 or 7. The Court thus treats Claim 1 as representative for the purpose of construing this term.

[5] The additional evidence included in the "*see also*" citations at the end of the Court's constructions, where applicable herein, provides additional support for the identified structure and is not intended to identify any additional or alternative structures.

(i) "connecting said one or more network services or remote users with said secure management access controller"; (ii) "provides logical separation of management data from user data" (iii) "utilizes user interfaces of said managed network element for connecting said one or more network services or remote users with said secure management access controller" **Structure**: a Virtual Management Interface (VMI) coupled to a user interface on the managed device, where the VMI utilizes communication protocols, modems, and physical interfaces (collectively communication system components) disclosed in the specification; and/or equivalents. *See* '140 Patent, 3:2-33, 6:22-31, 6:63-7:5, 8:20-29, 9:2-7, 11:60-67, 12:5-21, 12:37-64, 14:55-16:34, FIGS. 3-5, 9-13, 18, and 23-26.	(i) "connecting said one or more network services or remote users with said secure management access controller"; (ii) "provides logical separation of management data from user data" (iii) "utilizes user interfaces of said managed network element for connecting said one or more network services or remote users with said secure management access controller" **Structure**: Structure disclosed at '140 Patent, 3:2-33, 6:22-31, 6:63-7:5, 9:2-7, 11:60-67, 12:5-21, 15:26-39, FIGS. 3-5	(i) "connecting said one or more network services or remote users with said secure management access controller"; (ii) "provides logical separation of management data from user data" (iii) "utilizes user interfaces of said managed network element for connecting said one or more network services or remote users with said secure management access controller" **Structure**: a virtual private network (VPN) (6:22-44, 6:63-7:5, 12:5-21). *See also* 4:15-31, 11:60-67, FIGS. 3-5

For this term, the parties agree that § 112, ¶ 6 applies, they agree on the functions, and they provide largely overlapping citations to the specification as disclosing corresponding structure. The specification describes various "object[s] of the invention," including: "to establish a network enabled management interface for the secure remote management of the device" and "to secure

remote access"; "to define a virtual management interface for controlling management traffic" and "provide[] for logical separation of the management data from the user data even when the management data and the user data will transit the same physical network"; and "to restrict access to the management interfaces of the device." '140 Patent at 4:15–31.

As IV notes in its proposed construction, the specification refers to a "Virtual Management Interface (VMI)" when describing the functions identified for this claim term. Figure 3 shows the VMI as a black box, and the only structure described as implementing the claimed functions of the VMI, and thus clearly linked to those functions, is a "a Virtual Private Network (VPN) mechanism." *Id*. at 6:22–44, 6:63–7:5, 11:60–67, 12:5–21, Fig. 3. There is no dispute that a VPN is a known structure, and the '140 Patent admits VPN was existing technology. *Id*. at 6:23–31.

IV's additional proposed citations include portions of the specification that mention the VMI but are either generally describing features other than the VMI or fail to provide any additional or alternative structure. To the extent IV's arguments or citations could be construed as arguing that the VMI itself is corresponding structure, the Court rejects that interpretation for two reasons. First, as noted above, the VMI is not described in any structural detail apart from the VPN mechanism clearly linked to the claimed function. Second, the claim itself includes "virtual management interface" (VMI) as part of the disputed term. IV has agreed that § 112, ¶ 6 applies to this term and has offered no evidence that the term "virtual management interface" connotes structure.

F. "protection means" ('140 Patent, Claim 11)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Function**: "protecting the management data"	Subject to § 112, ¶ 6 **Function**: "protecting the management data"	Subject to § 112, ¶ 6 **Function**: "protecting the management data"

Structure: A virtual private network (VPN) via a virtual management interface (VMI) and/or an SMACC interface; and/or equivalents. *See* '140 patent, 3:49-60, 6:22-33, 6:58-7:6, 12:5- 36, FIGS. 3-5, 21, and 22.	**Structure**: Structure disclosed at '140 Patent, 3:49-60, 6:22-33, 6:34-7:6, 12:5-36, and FIGS. 4, 5 and 22.	**Structure**: a firewall (3:49-60), a virtual private network (VPN) (3:49-60, 12:5-36), or a combination of a firewall, VPN, and authentication and authorization applications (6:22-7:6). *See also* FIGS. 4, 5, and 22

For this term, the parties agree that § 112, ¶ 6 applies, they agree on the function, and they provide largely overlapping citations to the specification as disclosing structure corresponding to "protecting the management data." The specification states that "technology existing today" such as a "firewall/Virtual Private Network (VPN) appliance could be utilized to protect management traffic" and "protect the management data while it flows over the in-band network." '140 Patent at 3:49–60. The specification explains that the firewall and VPN are alternative structures that protect management data in different ways. *Id*. at 6:22–7:5; *see also id*. at 3:43–45, 4:27–31, Cl. 12. The VPN "protect[s] the management traffic" in transit, while the "firewall functionality protects the SMACC chipset from access by unauthorized parties." *Id*. at 6:22–7:5. Thus, the specification discloses the use of a firewall or a VPN structure to protect the management data. The specification also discloses that "a combination of firewall, VPN, and authentication and authorization applications" together may be used to "protect the management interfaces from attack," and thereby protect the management data. *Id*. The additional figures cited by IV do not disclose any additional or alternative structures.

G. "monitoring means for monitoring the status of at least one computer network component" ('140 Patent, Claim 13)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6	Subject to § 112, ¶ 6	Subject to § 112, ¶ 6

Function: "monitoring the status of at least one computer network component" **Structure**: the SMACC; and/or the SMACC processor; and/or circuitry and/or software disclosed in the specification as monitoring the status of network components and availability of power thereto; and/or equivalents of the SMACC; and/or the SMACC processor; and/or the above-identified circuitry and/or software. *See* '140 patent, 7:25-44, 17:64-18:4, 18:20-51, 19:23-31, 19:65-20:4, 20:11-21:19, 21:28-65, FIGS. 2, 9, and 15-17.	**Function**: "monitoring the status of at least one computer network component" **Structure**: Indefinite. Alternatively, algorithms disclosed at '140 Patent, 7:25-44, 17:64-18:4, 18:20-51, 19:23-31, 21:28-65, and FIGS. 15-16.	**Function**: "monitoring the status of at least one computer network component" **Structure**: a processor performing an algorithm to monitor network components for loss of connectivity by testing the network connection. (7:25-44, 17:50-18:4, 18:20-32, 21:13-65, FIGS. 15-16), or an uninterruptable power supply (UPS) that monitors network components for loss of external power (11:25-46, 18:33-51, 20:36-47, FIGS. 2 and 17).

For this term, the parties agree that § 112, ¶ 6 applies and they agree on the function. While LGL initially contends the term is indefinite, the parties provide largely overlapping citations to the specification as disclosing corresponding structure. "Monitoring the status of at least one computer network component" is a broadly recited function. The portions of the specification cited by the parties describe two alternative structures for performing the claimed function in different ways, and the term is thus not indefinite. The first relates to monitoring a computer network component for loss of network connectivity, and the second relates to monitoring a computer network component for loss of power.

Regarding the first structure, the specification discloses the "SMACC processor" can be "configured to monitor the various management interfaces for connectivity and report the loss of

connectivity" by testing the network connection and provides an example in the context of a Public Switched Telephone Network (PSTN). '140 Patent at 7:25–44, 17:50–18:4, 18:20–32, 21:13–65, Figs. 15–16. A PSTN is just one of the various types of networks disclosed, and the other networks could be similarly monitored by configuring a processor to perform the same basic algorithm to monitor network components for loss of connectivity by testing the network connection.

As to the second structure, the specification discloses using an "Uninterruptable Power Supply (UPS)" to monitor network components for loss of external power. *Id*. at 11:25–46; 18:33–51, 20:36–47, Figs. 2 and 17. The UPS may detect the loss of power, provide a notification on the loss of power, and selectively provide power to certain components. *Id*. at 11:25–46; 18:33–51. The additional figure and portions of the specification cited by IV do not disclose any additional or alternative structures clearly linked to the claimed function.

H. "monitoring means for monitoring the status of the network power supply" ('140 Patent, Claim 14)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Function**: "monitoring the status of the network power supply" **Structure**: The SMACC; the SMACC processor; voltage detection circuitry; and/or equivalents. *See* '140 patent, 7:25-44, 11:25-36, 17:64-18:4, 18:20-51, 19:23- 31, 19:65-20:4, 20:11-21:19, 21:28-65, FIGS. 2, 9, and 15-17.	Subject to § 112, ¶ 6 **Function**: "monitoring the status of the network power supply" **Structure**: Indefinite	Subject to § 112, ¶ 6 **Function**: "monitoring the status of the network power supply" **Structure**: an uninterruptable power supply (UPS) that monitors network components for loss of power (11:25-46, 18:33-51, 20:36-47, FIGS. 2 and 17).

For this term, the parties agree that § 112, ¶ 6 applies and they agree on the function. IV provides a laundry list of citations and fails to identify any specific structure disclosed therein, while LGL contends the term is indefinite.

IV's proposed structures are incorrect, but the term is not indefinite. IV fails to articulate, and the Court cannot discern, any meaningful difference between IV's first two proposed structures, "the SMACC" and "the SMACC processor," for purposes of construing this term. IV's third proposed structure, "voltage detection circuitry," is not clearly linked to this claimed function. As described in the specification, the SMACC and its generic processor are programmed to perform various functions, making it a special purpose computer. *See Williamson*, 792 F.3d at 1352. As LGL correctly argues, for the SMACC or its generic processor to be corresponding structure here, an algorithm for performing the claimed function must be disclosed. *See id*. IV first argues the specification discloses an algorithm for monitoring voltage. Dkt. 41 at 21 (citing '140 Patent at 18:22–28, Fig. 15). This also appears to be the support IV relies on for its proposed alternative "voltage detection circuitry" structure. The portion of the specification IV points to, however, is for determining if a phone line has lost network connectivity, not for monitoring the status of a network power supply as claimed. '140 Patent at 18:22–28, Fig. 15; *see also id*. at 21:28–50. IV second argues "the SMACC processor can monitor power outage of an external power supply by receiving and processing a 'notification' from the UPS" (uninterruptable power supply). Dkt. 41 at 21–22 (citing '140 Patent at 18:38–46, Fig. 17). But here, it is the UPS that is the structure clearly linked to the claimed function. As IV notes, it is the UPS that monitors the network power supply (shown in Fig. 17) for loss of power and may provide a "notification" if power is lost. '140 Patent at 18:38–46. Although the SMACC and its processor may receive the notification, the UPS is the structure disclosed as performing the claimed function.

The disclosed structure corresponding to this claimed function is thus an uninterruptable power supply (UPS) that monitors network components for loss of power. The additional figures and portions of the specification cited by IV do not disclose any additional or alternative structures clearly linked to the claimed function.

I. "reporting means" ('140 Patent, Claim 14)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Function**: "reporting the status of the network power supply" **Structure**: The SMACC; and/or the VMI; and/or the SMACC interface; and/or equivalents. *See* '140 patent, 6:22-33, 7:39-44, 11:25-36, 11:60-67, 12:5-20, 18:20-51, 20:11-21:12, FIGS. 2, 3, 9, and 15-17.	Subject to § 112, ¶ 6 **Function**: "reporting the status of the network power supply" **Structure**: Indefinite	Subject to § 112, ¶ 6 **Function**: "reporting the status of the network power supply" **Structure**: a processor performing the algorithm disclosed at Col. 20:24-29 or the algorithm disclosed at Col. 21:3-12.

For this term, the parties agree that § 112, ¶ 6 applies and they agree on the function. IV provides a laundry list of citations and fails to identify any specific structure disclosed therein, while LGL contends the term is indefinite.

The specification discloses "the SMACC processor" may "monitor the supply of external power to the power supply" by looking for a "notification by the UPS to the SMACC on the loss of external power" and may "notify the management center of the loss of power." '140 Patent at 18:33–51. The specification clearly links providing this latter notification to reporting the loss of power. The specification discloses the "SMACC can be configured to report the loss the [sic] main external power source to the power supply" by performing certain steps. *Id*. at 20:20–34. The

specification also explains the SMACC processor can "be configured to provide notification to the Management Center when power is restored" by performing certain steps. *Id*. at 21:1–12.

The corresponding structure here is thus a processor performing the algorithms disclosed in the '140 Patent at 20:24–29 or 21:3–12. The additional figures and portions of the specification cited by IV do not disclose any additional or alternative structures clearly linked to the claimed function.

J. "means for monitoring connection attempts made through the management access controller" ('140 Patent, Claim 16)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Subject to § 112, ¶ 6 **Function**: "monitoring connection attempts made through the management access controller" **Structure**: the SMACC; and/or equivalents. *See* '140 patent, 6:34-37, 6:44-57, 7:7-24, 8:13-19, 15:25-39, 15:47-56, 19:44-64, 22:4-25, FIG. 32.	Subject to § 112, ¶ 6 **Function**: "monitoring connection attempts made through the management access controller" **Structure**: Algorithm disclosed at '140 Patent, 22:4-25 and Figure 32.	Subject to § 112, ¶ 6 **Function**: "monitoring connection attempts made through the management access controller" **Structure**: an Access Control Server (ACS) using protocols to authenticate and authorize access (19:44-64), or a processor running one or more of RADIUS, TACACS+ and/or LDAP. (6:22-57, 7:7-24, 15:26-39). *See also* 4:37-40, 8:13-19

For this term, the parties agree that § 112, ¶ 6 applies and they agree on the function. IV provides a laundry list of citations and fails to identify any specific structure disclosed therein. LGL argues the structure is limited to an algorithm disclosed in the patent. The Court disagrees with both parties' recitation of structure. The Court finds corresponding structure disclosed in some portions of the specification cited by IV.

The specification explains an "object of the invention is to use an Access Control Server (ACS) to allow for centralized authentication and authorization of administrators." '140 Patent at 4:37–40. The ACS may use either "standardized protocols" or "proprietary protocols" to authenticate and authorize users. *Id*. at 19:44–64. "The advantages of using an ACS connected over the network is the user information, passwords, and privileges can be configured in one central system" rather than "in every device in the network." *Id*. The specification thus clearly links an Access Control Server (ACS) using protocols to authenticate and authorize access as structure corresponding to the claimed function.

The specification also explains the SMACC may alternatively "detect attempts to access the management interfaces by unauthorized systems or users." *Id*. at 8:13–19. "The authentication and authorization of administrators can either be configured and accomplished locally to the SMACC, and/or centralized services can be accessed." *Id*. at 6:22–57. The specification thus discloses the SMACC processor can be configured to perform the claimed function locally as an alternative to a centralized service using an ACS. *Id*. The SMACC processor, also referred to as "the SMACC chipset," implements a protocol to perform that function. *Id*. The specification discloses the following known protocols: "Remote Authentication Dial-In User Service (RADIUS) protocol, Terminal Access Controller Access Control System (TACACS+), or Lightweight Directory Access Protocol (LDAP)." *Id*. at 6:48–57, 7:7–24, 15:26–39. The specification thus clearly links a processor running one or more of RADIUS, TACACS+ and/or LDAP protocols as structure corresponding to the claimed function. The additional figures and portions of the specification cited by the parties do not disclose any additional or alternative structures clearly linked to the claimed function.

K. "said … remote users" ('140 Patent, Claim 1)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Plain and ordinary meaning	Indefinite	Plain and ordinary meaning.

LGL argues this term is indefinite because it lacks antecedent basis and because it requires a person to be connected to a device in the claimed system. The Court disagrees.

First, LGL uses an ellipsis to include the word "said" as a modifier for "remote users." Claim 1 recites (multiple times), "connecting *said one or more network services or remote users* with said secure management access controller." (emphasis added). The word "said" is next to and modifies "one or more network services," not "remote users" as LGL contends. Further, the full phrase uses the word "or" rather than "and," rendering LGL's reliance on *SIMO Holdings* inapposite. *See* Dkt. 46 at 15 (quoting *SIMO Holdings Inc. v. Hong Kong uCloudlink Network Tech. Ltd.*, 983 F.3d 1367, 1376 (Fed. Cir. 2021) ("[B]ecause the list uses 'and' rather than 'or,' the phrase is properly understood as if [the modifier] appears before each item…."). The claim provides sufficient antecedent basis for "remote users."

Second, the claim does not require a person to be connected to the claimed system as LGL contends. The specification explains that remote administrators communicate with the system and access managed devices using one or more networks. '140 Patent at 1:45–55, 8:20–29. Remote administrators are consistently described and shown as using a computer to communicate with system. *Id*. at 15:15–25, 15:42-50, Figs. 4, 5. And the specification treats connections between the "remote administrator" and other system components as being a connection to the computer of the remote administrator. *Id*. at 16:22–34 ("The telnet traffic would travel in the clear between the remote administrator and the gateway."), Fig. 5. Thus, read in light of the specification, the term "remote user" does not require a person to be connected to a device.

The term is not indefinite. Neither party has proposed a construction other than the plain and ordinary meaning or provided any argument for deviating from the plain an ordinary meaning. The Court thus construes this term to have its plain and ordinary meaning.

L. Preambles ('835 Patent, Claims 1, 7, 12, 20, and 23)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Preamble is not limiting	Preamble is limiting	Preamble is not limiting.

The '835 Patent relates to adjusting the timing of various signals for an integrated circuit. '835 Patent at Abstract. LGL argues the preambles of these claims are limiting based on the prosecution history of the '835 Patent and references to the "present invention" in the specification. Dkt. 33 at 24–26. The Court disagrees. The preambles are not limiting because the claims define "a structurally complete invention in the claim body and use[] the preamble only to state a purpose or intended use for the invention." *Catalina Mktg.*, 289 F.3d at 808 (quoting *Rowe*, 112 F.3d 73 at 478).

Regarding LGL's prosecution history argument, the statement LGL quotes and emphasizes in its brief and describes as "essentially the substance of the preamble" is quoting language from the last limitation of Claim 1 (and others), not the preamble. The evidence LGL identifies is not a clear and unmistakable reliance on the preamble to distinguish prior art during prosecution and is insufficient to convert a statement of intended use into a claim limitation. *See id*. at 809 ("Again, statements of intended use or asserted benefits in the preamble may, in rare instances, limit apparatus claims, but only if the applicant clearly and unmistakably relied on those uses or benefits to distinguish prior art.").

Regarding LGL's other arguments, the preambles do not recite "additional structure or steps underscored as important by the specification." *Catalina Mktg.*, 289 F.3d at 808. The

statements LGL identifies from the specification are similarly worded to the preamble and are similarly statements of purpose and intended use.

M. "the valid operation range includes an optimal operation point for the integrated circuit device" ('835 Patent, Claims 1, and 7)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Plain and ordinary meaning	Indefinite	Plain and ordinary meaning. Note: this claim element does not require determining the optimal operation point.

LGL argues this term is indefinite because it includes the phrase "optimal operation point," which LGL contends is a subjective term of degree that the specification fails to provide objective boundaries for determining. Dkt. 33 at 26–30. LGL's argument rests on the incorrect premise that the claims require determining "an optimal operation point." This term is not indefinite because all the claim requires is that the valid operation range *include* an optimal operation point, not *determining* the optimal operation point within that range. LGL does not argue for any constructions in alternative to the plain and ordinary meaning.

N. cyclically advancing the first OFDM packet by shifting the samples in a first direction" ('439 Patent, Claims 1 and 7)

IV's Proposed Construction	LGL's Proposed Construction	Court's Construction
Plain and ordinary meaning	"cyclically advancing the first OFDM packet by shifting the samples in the direction of transmission"	"cyclically advancing the first OFDM packet by shifting the samples in the direction of transmission"

The '439 Patent relates to providing cyclic diversity by cyclically advancing packets in packet-based transmission systems. '435 Patent at Abstract. The parties dispute whether the

claimed "a first direction" should be limited to "the direction of transmission."[6] During prosecution, the applicant argued that the claimed invention was different from cited prior art because of the direction of the shift, and stated: "Larsson, however, does not appear to suggest the 'cyclical advancements' be applied to the OFDM packet as set forth in claim 24 and Fig. 8." *Zebra Techs.*, No. No. 6:23-cv-00292-ADA, Dkt. 43-7 at 10 (Ex. F to Defendant's Claim Construction Brief). The applicant argued that Larrson's shift would be in the wrong direction "and thereby cause intersymbol [sic] interference." *Id*. The applicant further explained that claimed invention would avoid that problem "due to the directional shift as set forth in Fig. 8, in which the first OFDM packet 804 is left shifted …." *Id*. at 10–11. The shift to the left in Fig. 8 of the '439 Patent is in the direction of transmission. '439 Patent at 7:31–58, Fig. 8. Based on the clear and unmistakable statements made during prosecution by the applicant to distinguish prior art, the Court agrees with LGL that the first direction is limited to the direction of transmission.

SIGNED this 9th day of July, 2024.

ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE

[6] For this term, both parties cite to and incorporate the claim construction arguments made in the respective briefs in *Intellectual Ventures I et al v. Zebra Technologies Corp.*, No. 6:23-cv-00292-ADA (Dkts. 43, 45, 47, 49), also pending before this Court.